

GLOBAL COMMONS

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ABSTRACT

‘The tragedy of the commons’ and ‘the common heritage of mankind’ are concepts that dominate the legal discourse on governing global commons, including spaces beyond national jurisdictions, essential resources, and concerns such as biodiversity conservation and climate change. This paper offers a critical account of their origins. It associates each with a prominent speech-act of the late 1960s: Garrett Hardin introduced the former to a group of scientists in 1968; Arvid Pardo articulated the latter to the First Committee of the UN General Assembly in 1967. The paper shows that that Hardin and Pardo’s interventions responded to pressing issues of the time: decolonization, developed/developing state relations, and pressures of population and resource security. Channelling that period’s fascination with integrative knowledge, they were impressive, if error-laden, feats of synthesis of economic, legal, and scientific data and theories. At the same time they had parochial, illiberal and even imperial dimensions, playing upon and exacerbating the mistrust that then typified international relations. These are all legacies we must contend with today, in our legal engagements with global commons.

1. Introduction

‘Global commons’, which may include spaces beyond national jurisdictions, essential resources, and concerns such as biodiversity conservation and climate change, are the focus of much international interest from a governance perspective. The proposition that they must be subjected to global regulation rarely creates controversy, although disputes arise when we turn to specific issues: how to identify global commons; and which rules, principles and standards to embrace for their regulation.

Two prominent concepts shape the regulatory discourse: ‘the tragedy of the commons’ (TOC), that common resources are over-exploited in the absence of regulation while common concerns remain unaddressed; and ‘the common heritage of mankind’ (CHM), that some resources belong to us all, including our future generations, and we cannot be denied rights or

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responsibilities in relation to them. Both concepts point to the tension between the sharing and preservation of resources, but with some differences. While TOC accepts that where a resource is a commons it cannot be withheld from a community, CHM gives this a normative cast – no member of a community should be excluded from a commons. TOC is above all concerned with the detrimental effects of unregulated access to a resource, promoting enclosure (privatization) and public regulation; CHM supports public regulation to distribute costs and benefits, but resists enclosure.

In this article, I examine the emergence of these two concepts, focusing on the – contemporaneous – speech acts that constituted their initial public articulations. TOC was outlined by biologist Garrett Hardin to the Pacific Division of the American Association for the Advancement of Science (AAS) in June 1968; the speech was published in the journal *Science* in December 1968,¹ and elaborated upon in subsequent writings. CHM was articulated by diplomat Arvid Pardo to the First Committee of the United Nations (UN) General Assembly in November 1967,² and then in several publications in the following year,³ and later.

I show that both Hardin and Pardo's interventions canvassed themes of particular concern to their period: pressing questions of population and resource distribution, following from decolonization and hostile international relations between developed and developing (and capitalist and communist) states.⁴ They also reflected their times in taking integrative approaches to knowledge, emphasizing rationality and technology as the keys to understanding economic and legal choices. Remarkably, although they culminated in differing prescriptions for legal regimes, both interventions were prejudice-mongering, and misled their audiences on the most significant threats to global commons. Warmly received, perhaps for all of the above reasons, both may have undermined slower, but surer, responses to governing the commons.

In short, I offer a critical history of TOC and CHM, revealing their formulation and influence as contingent upon particular assumptions, concerns and representations; and raise

¹ Hardin, 'The Tragedy of the Commons', 162 *Science* (1968) 1243. I use 'Tragedy of the Commons' to refer to Hardin's paper, and 'TOC' to refer to the concept.

² General Assembly, First Committee Debate, UN Doc. A/C.1/PV.1515-1516, 1 November 1967.

³ Pardo, 'Who will control the seabed?', 47 *Foreign Affairs* (1968-1969) 123; 'Address to the American Society of International Law', 62 *ASIL Proceedings* (1968) 216; 'Sovereignty under the sea', 58 *Commonwealth Journal of International Affairs* (1968) 341.

⁴ See generally A. Bashford, *Global Population: History, Geopolitics and Life on Earth* (2014), esp. Part IV.

the question of whether they can be disentangled for present use from the political and epistemological worldviews upon which they were founded.

Before discussing each intervention in turn, I briefly highlight a few factors that no doubt informed them, though care should be taken in assessing their influence. First, the settings of the initial speech acts. Hardin was a scientist speaking at a meeting of scientists; his speech, a farewell from office, summarised the human behavioural assumptions and concerns that had been central to his scholarship and advocacy. Pardo was a lawyer and diplomat, and Malta's Permanent Representative to the UN; he delivered a *tour de force* on behalf of a relatively new entrant to that organisation, seeking to simultaneously promote both a legislative agenda and Malta's international standing.

Secondly, Hardin and Pardo's political commitments. Pardo, a cosmopolitan, had been imprisoned in Italy and Germany for participation in the Italian resistance during World War Two. Post-War, he worked for the UN, at the Department of Trusteeship and Non-Self Governing Territories and (what is now) the UN Development Programme, before being appointed Malta's chief diplomat in the United States and Europe. Neo-Malthusian Hardin was an active advocate of eugenics, restricting foreign aid, immigration and population growth, and legalising abortion and the right to die.⁵ He spent most of his life as Professor of Human Ecology at the University of California, Santa Barbara; in 1975, Pardo moved to a proximate academic home, teaching international relations at the University of Southern California.

Thirdly, Hardin and Pardo's intellectual formations. Born in the first year of the Great War, both spent the inter-war years in education, obtaining PhDs just before the Second World War. As other scholars have argued, this was a period in which integrative approaches and comprehensive theories became prominent in Western education, paving the way for post-War programmatic emphasis on interdisciplinary work in academia and policy-making.⁶ Hardin and Pardo, both moving between cognate fields for their undergraduate and graduate degrees – Hardin read zoology at Chicago and took his PhD in microbiology at Stanford; Pardo read diplomatic history at Tours and took his PhD in international law at Rome – engaged with literatures from a variety of knowledge fields. Hardin's writings traversed philosophy, economics, anthropology, psychology and the physical sciences; Pardo, with a similar range of

⁵ G. Hardin (ed.), *Population, Evolution and Birth Control: A collage of controversial readings* (2nd ed., 1969).

⁶ J.T. Klein, *Interdisciplinarity: History, Theory and Practice* (1990), at 19-39; Locher, 'Cold war Pastures: Garrett Hardin and the "Tragedy of the Commons"', 60 *Revue d'histoire moderne et contemporaine* (2013) 7.

interests, reportedly even spent the Maltese UN Mission's library fund on *Scientific American* rather than the *American Journal of International Law*.⁷

An integrative approach was key to both interventions, and their successes and failings. Both Hardin and Pardo relied on eclectic combinations of theory and fact spliced from various disciplines to develop comprehensive imaginaries of the commons. But this was at the cost of representing cocktails of selectively distilled theories, data and inferences as exclusive accounts of *reality*, which, furthermore, dictated specific normative approaches and policy measures. The point is not – simply – that Hardin and Pardo failed in their interdisciplinary enterprise.⁸ It is rather that the very undertaking of that enterprise may have contributed to the success of their interventions. I take my cue from Marilyn Strathern's observation that assertions of interdisciplinary integration can shield acts of knowledge management from scrutiny, making us overlook reductions, reifications and misrepresentations in the comfortable belief that multiple epistemologies have been canvassed and useful conclusions generated.⁹ Hardin and Pardo were beneficiaries of such a response.

I return to an assessment of the politics and epistemologies underlying the two interventions in section 4; first, sections 2 and 3 parse Hardin and Pardo's accounts of TOC and CHM, and examine the assumptions, concerns and representations that shaped their accounts.

2. Garrett Hardin and the Tragedy of the Commons

A. *The Text*

Hardin's six-page text was offered as a critique of *laissez faire*, calling upon readers to 'exorcize the spirit of Adam Smith'. For, otherwise, a rising population would lead to the erosion of common resources. This outcome was inevitable – brought about by the inherent logic of the commons – which illustrated philosopher AN Whitehead's characterization of

⁷ Keith, 'International Law 1960-2010: Now and Then', 43 *Victoria University Wellington Law Review* (2012) 21, at 33.

⁸ A vast literature points to the difficulties such an enterprise must overcome. E.g. Price, 'Critical Realist versus Mainstream Interdisciplinarity', 13 *Journal of Critical Realism* (2014) 52; Fish, 'Being Interdisciplinary Is So Very Hard to Do', *Profession* (1989) 15; Barry et al., 'Logics of Interdisciplinarity', 37 *Economy and Society* (2008) 20; Klein, *supra* note 6, at 85-94.

⁹ Strathern, 'A community of critics? Thoughts on new knowledge', 12 *Journal of the Royal Anthropological Institute* (2006) 191.

‘tragedy’ as the ‘remorseless working of things’. Hardin offered the illustration of the destruction of common pastures as herdsmen increased the cattle grazed on them

As a rational being, each herdsman seeks to maximize his gain.... Therein is the tragedy. Each man is locked into a system that compels him to increase his herd without limit—in a world that is limited. Ruin is the destination toward which all men rush, each pursuing his own best interest in a society that believes in the freedom of the commons. Freedom in a commons brings ruin to all.

Other examples included the oceans, suffering under the ‘shibboleth of the “freedom of the seas”’: which, together with the pretence that ocean resources were inexhaustible, permitted avaricious maritime nations to ‘bring species after species of fish and whales closer to extinction.’ A key incentive was freeriding, or shifting the cost to others. For example, vis-à-vis pollution: ‘The rational man finds that his share of the cost of the wastes he discharges into the commons is less than the cost of purifying his wastes ... we are locked into a system of “fouling our own nest,” so long as we behave only as independent, rational, free-enterprisers.’

Such tragedies could not be prevented by self-regulation. Hardin cautioned against appeals to ‘conscience’, asserting (quoting Nietzsche) that a ‘bad conscience is a kind of illness’, that either left individuals racked with guilt for being selfish, or made them act against their rational interests, promoting feelings of having been foolish.

He favoured the use of coercive social arrangements to regulate individual behaviour: enclosure (as private property) of resources that could be readily fenced; taxes and coercive legislation to regulate those that could not be. Such arrangements reflected ‘mutual coercion, mutually agreed upon by the majority of the people affected’. While not perfectly just, they had the merit of certainty, and were dictated by necessity:

[T]he commons, if justifiable at all, is justifiable only under conditions of low-population density. As the human population has increased, the commons has had to be abandoned in one aspect after another....

Individuals... once they see the necessity of mutual coercion ...become free to pursue other goals. I believe it was Hegel who said, “Freedom is the recognition of necessity.”

‘We must admit’, Hardin observed, ‘that our legal system of private property plus inheritance is unjust – but we put up with it because we are not convinced, at the moment, that anyone has invented a better system. The alternative of the commons is too horrifying to contemplate. Injustice is preferable to total ruin.’

B. *The Subtext*

Hardin's later work, reflecting upon the impact and context of formulation of his tragedy thesis, clarified its underlying politics. A two-page follow-up in 1998 noted that his 1968 text had been embraced by diverse fields, and 'became required reading for a generation of students and teachers seeking to meld multiple disciplines in order to come up with better ways to live in balance with the environment.'¹⁰

This wide impact was presumably particularly gratifying in respect of an argument finalized almost at the last minute, and the author's professed 'first attempt' at interdisciplinary analysis. Hardin recalled that he had started out to provide 'an ecologist's view of the human overpopulation problem'. Taking Adam Smith as his model, he had assumed that 'the sum of separate ego-serving decisions would be the best possible one for the population as a whole.' However, he was soon persuaded otherwise by William Lloyd's Oxford lectures of 1833:

Lloyd pointed out that, with a resource available to all, the greediest herdsmen would gain—for a while. But mutual ruin was just around the corner. As demand grew in step with population (while supply remained fixed), a time would come when the herdsmen, acting as Smithian individuals, would be trapped by their own competitive impulses. The unmanaged commons would be ruined by overgrazing; competitive individualism would be helpless to prevent the social disaster.¹¹

This passage is in line with Hardin's writings from the late 1970s onwards that seemingly qualify TOC as applicable in *unmanaged* commons.¹² Hardin acknowledged

[T]he weightiest mistake in my synthesizing paper was the omission of the modifying adjective "unmanaged." ... A 'managed commons' describes either socialism or the privatism of free enterprise. Either one may work; either one may fail: 'The devil is in the details.' But with an unmanaged commons ... ruin is inevitable. With this modification firmly in place, "The Tragedy of the Commons" is well tailored for further interdisciplinary syntheses.¹³

Hardin treats the adjective 'managed' as nuancing his thesis. But let us consider the precise gloss added. One interpretation could be that the adjective signifies a change in his politics,

¹⁰ Hardin, 'Extensions of "The Tragedy of the Commons"', 280 *Science* (1998) 682. On TOC's impact, see Locher, *supra* note 6, at 28-32.

¹¹ Hardin, *ibid.*, at 682.

¹² Hardin, 'An Ecological View of the Human Predicament', in C.N. McRostie (ed.) *Global Resources: Perspectives and Alternatives* (1980) 50.

¹³ Hardin, Extensions, *supra* note 10, at 683.

from principally advocating private property. Hardin had previously dismissed other economic regimes, including the welfare state:

If each human family were dependent only on its own resources; if the children of improvident parents starved to death; if, thus, overbreeding brought its own 'punishment' to the germ line then there would be no public interest in controlling the breeding of families. But our society is deeply committed to the welfare state, and hence is confronted with another aspect of the tragedy of the commons.

In a welfare state, how shall we deal with the family, the religion, the race, or the class ... that adopts overbreeding as a policy to secure its own aggrandizement? To couple ... freedom to breed with the belief that everyone born has an equal right to the commons is to lock the world into a tragic course of action.¹⁴

He had cited managed regimes like the proposed World Food Bank of the 1970s, or the World Bank's lending programmes as commons subject to tragedy because they redistributed wealth.¹⁵ Advocating a 'lifeboat' ethics in which developed communities placed their own comfort over the survival of others, and wasted rather than distributed surplus resources to keep numbers in check,¹⁶ he was critical of policies alleviating hunger, disease and rate of mortality in developing states.¹⁷ He defended this stance as the more ecologically sustainable one.

Did he step back from such a position in referring to managed commons? Should we note particularly the mention of 'socialism' to conclude that Hardin came to embrace a range of economic regimes, barring only those entirely open-access? That *would* signify a major shift in his thinking; though it would also make his tragedy thesis somewhat anodyne. Indeed, we would have to conclude that his text added no more than a pithy phrase to ideas that were already in circulation: Paul Ehrlich's bestselling *The Population Bomb* (1968) detailed the dangers of overpopulation; Mancur Olson's influential *The Logic of Collective Action* (1965), explained the free-rider and collective action problems;¹⁸ and Rachel Carson's *Silent Spring* (1962) highlighted human impact upon the environment.¹⁹ Moreover, 'the end of laissez faire'

¹⁴ Hardin, Tragedy, *supra* note 1, at 1246.

¹⁵ Hardin, 'Living on a lifeboat', 24 *Bioscience* (1974) 561.

¹⁶ Hardin, An Ecolate View, *supra* note 12.

¹⁷ Hardin, 'Carrying Capacity and the Quality of Life', *Social Contract* (1991) 195.

¹⁸ Hardin's hypothetical example of the herdsman would not have found support from Olson, who suggested that small, locally-situated groups could organize in the collective interest.

¹⁹ Hardin's article did not refer to these works, although later analyses have commented on their intersections with Hardin's thought: E. Ostrom, *Governing the Commons: The evolution of institutions for collective action* (1990), at 6-7; Ells, 'Ecological Rhetoric through Vicarious Narrative: The Enduring Significance of Garrett Hardin's The Tragedy of the Commons' 2 *Environmental Communication* (2008) 320, at 327.

had long since been announced, amongst others by John Maynard Keynes,²⁰ whose ideas of public spending and state regulation were influential.²¹

However, Hardin's reference to 'socialism' is no reason to believe that he had come to embrace a range of economic regimes. By socialism he referred only to management by the state of commons that could not be enclosed as private property.²² It was not a call to abandon lifeboat ethics; but rather – and here is the more persuasive view of the gloss added – to emphasize that some commons could only be safeguarded by coercion targeting the poor.

As becomes painfully evident from Hardin's subsequent writings, his account of TOC specifically targeted the choices (that he assumed were inevitably) made by specific groups: impoverished communities in developed states, and the people of the Third World. Hardin offered no criticism of the ecologically unsustainable lifestyles of the rich in developed states.²³ Perhaps he assumed that as private owners of resources, they would be careful stewards for their own future generations; but it is noteworthy that he also discounted the social costs of their consumption. Not only did he defend their pursuit of luxury, he also cautioned them against a long memory of past resource-grabbing and free-riding.²⁴ Luxury became unsustainable only when demanded by the poor and the Third World.²⁵

Hardin is inaccurately, though often, read as projecting the assumption of a calculating rationality upon all humans. One scholar suggests that Hardin's intervention was influential because his rationality-based explanation matched the prevailing idea of the *homo economicus* and could be integrated into game theory.²⁶ Another posits that Hardin's success lay in making

²⁰ J.M. Keynes, *The End of Laissez-Faire* (1926). The essay identified population as one of three areas that should be regulated by the state.

²¹ Hardin referred to Keynes in passing, approvingly: '[t]here are not many [economists] like ... Keynes, who made both fundamental theoretical contributions and also made money, and also wrote some beautiful essays, being an Englishman. But he's quite exceptional. There are not many like that': 'Loitering with Intent: The Life and Times of Garrett Hardin', interviews with D.E. Russell, University of California Santa Barbara Oral History Project (1983), Tape 14.

²² Hardin, *An Ecolate View*, *supra* note 12.

²³ Others, like Ehrlich, were careful to point out disproportionate consumption of global resources by the rich. Ehrlich co-authored the famous $I = PAT$ equation, which equates human impact on the environment to the product of population, affluence and technology. In discussing this equation, Hardin slid over the contributions of affluence and technology, targeting population as the culprit: *Living within Limits: Ecology, Economics and Population Taboos* (1993), at 202.

²⁴ Hardin, *Lifeboat*, *supra* note 15 (arguing Americans of non-Indian ancestry should not become 'intoxicated with pure justice' and seek to return stolen land to Indians); *Living within Limits*, *supra* note 23, at 36-37 (dismissing arguments on the economic consequences of colonialism as scapegoating the West).

²⁵ Hardin's lifestyle choices reflect this view: he built a private swimming pool (having criticized the 'parasitic prodigality' of Gabon's President for doing the same: *An Ecolate View*, *supra* note 12), and had four children.

²⁶ Locher, *supra* note 6, at 25.

the reader identify with the rational herdsman and thus ‘understand from his or her own self-concept that the future events implied by the narrative must inexorably occur.’²⁷ However, the appeal of Hardin’s text was perhaps more visceral. Hardin in fact communicated a terrifying contrast: the resource-grabbing *other*, versus the generous, liberal, ‘Christian-Marxist’ *compatriot* who is driven to establish commons in the form of welfare, foreign aid, and immigration.²⁸ This distinction underlay his rejection of self-regulatory approaches to family planning: he worried that only educated citizens of developed states would limit their family-size; poor and Third World peoples would continue to reproduce at a high rate. He did not run shy of the further conclusion that this would eventually result in a drop in population quality.²⁹ It appears that Hardin advocated coercive measures not only because he feared the pathogenic effects of a bad conscience, but also because he believed such a conscience was limited to rich (western) people.

The contexts of his references to ‘managed commons’ also elucidate Hardin’s idea of ‘mutual coercion, mutually agreed upon.’ It emerges that, vis-à-vis national policies, he was a majoritarian, with little to say about policies that failed to safeguard minority preferences. And in international relations, Hardin prescribed a hardened, unilateral stance for his government, in which the only supportable form of foreign aid was that influential upon other governments’ willingness to take repressive measures against population growth.³⁰ (Chillingly, he had only praise to offer of India’s Emergency-era sterilization programme, and of compulsory abortions in China³¹). Hardin’s normative preference for realism in international affairs – which he considered particularly vulnerable to TOC – was well encapsulated in his metaphor of the lifeboat.

Hardin’s body of work clarifies that the apparently unitary thesis of TOC was founded on what Anthony Anghie calls ‘the dynamic of difference’.³² Anghie describes this dynamic in the context of international law, as that of drawing distinctions between civilized European and uncivilized non-European peoples, followed by formulating doctrines to efface their gap and

²⁷ Ells, *supra* note 19, at 329

²⁸ These adjectives are scattered through Hardin’s writings: e.g. ‘There is no global population problem’, *Social Contract* (2001) 19.

²⁹ Locher, *supra* note 6, at 27, suggests this perception underlay Hardin’s decision to have four children.

³⁰ Hardin, ‘The Toughlove Solution’, *Newsweek* (1981) 45.

³¹ Hardin, *Living within Limits*, *supra* note 23, at 37, 270.

³² Anghie, ‘The Evolution of International Law: Colonial and Post-Colonial Realities’, 27 *Third World Quarterly* (2006) 739.

bring the uncivilized into the universal order governed by (European) international law.³³ Hardin drew his distinctions between rich western and poor and Third World peoples, targeted the latter as agents of TOC, and recommended policies to overcome their predilections for the sake of the universal good of ecological sustainability. The politics of Hardin's Tragedy of the Commons, and its fit with the times is nicely summed up by Eric Ross:

Hardin's 1968 broadside embodied all the cardinal qualities of Cold War Malthusian thinking: it was anti-socialist, anti-democratic and eugenic. So congenial was its message to its time that, despite being devoid of any empirical evidence, it was published in *Science*.³⁴

C. Tragedy and Truth

Hardin's Tragedy of the Commons and later writings conveyed a discriminatory and prejudiced stance under the seal of ecological thinking. Here I further unpack his presentation, focusing on the ways in which he managed his narrative to reach a neat, seemingly inevitable conclusion.

Hardin engaged selectively with facts in representing commons as subject to tragedy. His principal illustration was that of the English commons, the occurrence of TOC in which he initially framed as a hypothesis and later asserted as fact.³⁵ But the example was false: English commons had been successfully managed by their commoners over long periods;³⁶ and for them enclosure had been the real tragedy.³⁷ Empirical researchers, notably Elinor Ostrom, have also highlighted successful commons management elsewhere.³⁸ (Ostrom received the Nobel Prize for Economics for this research in 2009). Hardin was influenced by Ostrom's work to some extent, acknowledging that the informal power of shame might suffice in small groups (of about 150).³⁹ But he did not engage with her findings of successful commons arrangements within larger groups. He was even less robust in his reading of other work: having himself presented a hypothesis as fact, he treated at least one factual account as hypothetical – Peter Singer points out Hardin's neglect of the empirical component of a work on blood banks, even as he dismissed as fanciful the theoretical claims of that work.⁴⁰ He did not engage at all with

³³ *Ibid.*, at 742.

³⁴ Ross, 'The Malthus Factor: Poverty, Politics and Population in Capitalist Development', 20 *CornerHouse Briefing* (2000) 8.

³⁵ G. Hardin, *The Limits of Altruism: An Ecologist's View of Survival* (1977), at 30.

³⁶ E.P. Thompson, *Customs in Common* (1991), at 107.

³⁷ de Moor, 'From common pastures to global commons: a historical perspective on interdisciplinary approaches to commons' 19 *Natures Sciences Sociétés* (2011) 422, at 425.

³⁸ See Ostrom, *supra* note 19.

³⁹ Hardin, *Living within Limits*, *supra* note 23, 167.

⁴⁰ Singer, 'Survival and Self-Interest: Hardin's Case against Altruism', 8 *Hastings Center Report* (1978) 37.

economists like Olson, who had also examined problems of collective action, and elaborated on the settings in which cooperation could develop. With such elisions, Hardin was able to insist upon the ubiquity and incontrovertibility of his 'biological' account of selfish human behaviour.

He was able to project his account selectively onto poor and Third World peoples. Partly he did so by avoiding analysis of consumption rates, so that he could point simply to groups with the greater numbers as posing the greater threat. Moreover, his analysis of welfare and wealth-redistributing institutions (existence of which would seemingly contradict his biological account) exemplifies how a dynamic of difference may be superimposed upon a supposedly unitary account of human nature: he simply represented rich western people as also shaped by civilizational influences: ideals, religion, work ethic, education, social ambitions, and concern for future generations, all of which also led them to less selfish choices. He avoided considering whether similar factors could also dictate the choices of poor and Third World peoples. Rather, in a neat move – and in line with representations of the *homo economicus* – he presented atomistic self-interest as the epitome of rationality; and thus by virtue of natural selection more likely to outlast in times of greater scarcity the softer attributes listed above (and by inference as typical of poor and Third World peoples).

He also made strategic use of numbers: offering arrays of statistics speaking to the rate of population growth, actual and projected, and using ratios to explain the pressures on the Earth's carrying capacity, including drawing analogies with men swelling beyond sizes supportable by their muscles.⁴¹ But he offered no indication of what would be the maximum sustainable population for the Earth.⁴² This omission mattered because he continually represented the limit as breached among poor and Third World peoples, but never commented on the family-sizes of rich western people. The inference that there were too many people of the former sort and not enough of the latter was further maintained because his analysis of ratios never extended to consumption patterns.

Hardin thus used empirical evidence to dazzle, but not to refine his analysis – despite his assertion of pursuing a 'default science', in which a propounded model was corrected by reference to contrary data.⁴³ His writings, rather, were polemics, intended to shock and prompt

⁴¹ Hardin, Living within Limits, *supra* note 23, 124.

⁴² Johnson, 'Review: *The Ostrich Factor*', 25 Population and Development Review (1999) 593.

⁴³ Hardin, *The Ostrich Factor: Our Population Myopia* (1999).

debate. As such, they may be seen as entirely justified by the engagements and critiques that they *have* generated – but for one fact: he tried to pre-empt these engagements and critiques by appeal both to his disciplinary expertise and his interdisciplinary endeavour.

In the first place, he portrayed non-scientists as ignorant of truths that biologists, physicists and engineers know. This he did via selective engagement with their scholarship. Singer has pointed to Hardin’s ‘scandalous’ treatment of a work in social policy, and his selective use of texts from anthropology.⁴⁴ His use of economic theory is also worth noting, for it formed the bedrock of the Tragedy of the Commons. Hardin’s critique of *laissez faire*, relying on Lloyd’s lectures of 1833, was dated; by 1968, *laissez faire* had received nuanced airings and detailed critiques. None of these were mentioned is his denunciation of liberal socio-economic policy. Hardin simply assumed the contours and predominance of the thesis he chose to rebut: blaming the ‘spirit of Adam Smith’, i.e. *laissez faire*, ignoring that, as Keynes had already pointed out, Smith was not dogmatic about *laissez faire* (a phrase never mentioned in his writing) and had favoured legal restrictions such as on usury and navigation.⁴⁵ But, for Hardin, Smith was a convenient straw man. Kevin Ells notes that Hardin similarly set up Jeremy Bentham as another convenient straw man, reading his argument for the greatest happiness for the largest extant number of people as an argument for maximum population growth. Ells observes, ‘Hardin seems so horrified by the prospect of overpopulation that he finds support for it everywhere.’⁴⁶ Such references by Hardin permitted the impression that his work was a novel challenge to the hegemonic but ignorant position held by non-scientists over the ages.

Moreover, he appealed to the interdisciplinary ambition of the Tragedy of the Commons. His 1998 reflection in *Science* conveyed a rueful acknowledgement of the perils of stitching together specialities:

A final word about interdisciplinary work—do not underestimate its difficulties. The more specialties we try to stitch together, the greater are our opportunities to make mistakes—and the more numerous are our willing critics. Science has been defined as a self-correcting system. In this struggle, our primary adversary should be “the nature of things.” As a matter of policy, we must not reply in kind to those critics who love to indulge in name-calling. (They are all too numerous in interdisciplinary undertakings.) But critics who, ignoring personalities, focus on the underlying nature of things are the true friends of science.⁴⁷

⁴⁴ Singer, *supra* note 40, at 38.

⁴⁵ Keynes, *supra* note 20, at II.

⁴⁶ Ells, *supra* note 19, at 325.

⁴⁷ Hardin, Extensions, *supra* note 10, at 683.

As the quote indicates, Hardin saw many of his non-scientist critics as indulging in name-calling, rather than as challenging his representation of the underlying nature of things. This quote moreover comes at the end of a piece that dwells on his efforts to transcend the fetters introduced by an earlier generation of ethicists, philosophers and economists. The inference follows that criticisms of Hardin's selective borrowings, and inaccurate readings of facts and stances are ungenerous to his project.

In fairness to Hardin, his writing is imbued with a serious sense of purpose: he genuinely sees himself as offering a corrective to generations of addled, non-scientific, thought. Locher points out that such a conviction had multiple influences, including the promotion of techno-scientific approaches like cybernetics, systems theory and game theory during and following the Second World War, and the exacerbated scienticism of the Cold War decades.⁴⁸ But equally, it is worth noting the applicability of the criticisms that one scholar, Leigh Price, has levelled at what she calls 'mainstream interdisciplinarity' of science scholarship oriented to policy-making.⁴⁹ Such scholarship, she argues, shows three tendencies. First, it 'hypostatizes facts', representing possibilities as actualities, which we see in Hardin's examples of TOC and hard correlations between population growth and resource erosion, and welfare and population growth. Second it 'fetishizes constant conjunctions of events', which we see in Hardin's supposition of identical patterns of free-riding among poor and Third World peoples, his insistence upon the inexorability of TOC, and his rejection of ameliorative solutions. Third, it applies 'to open systems an epistemology designed for closed systems', which we see particularly in Hardin's embrace of the lifeboat metaphor, and his refusal to admit the complex factors that shape consumption and reproduction decisions. Price asserts that through such tricks of knowledge management, mainstream interdisciplinary science 'deceives' its audience.

I return to the issue of knowledge management in section 4. But first, section 3 explores Pardo's intervention, which is particularly interesting in light of the foregoing discussion for two reasons. It is concerned with a *global* commons – commons in the realm of international relations – the type sometimes described as the best illustration of Hardin's tragedy thesis.⁵⁰ And Pardo adopted a different view of the tragedy, being concerned about the *enclosure* of the

⁴⁸ Locher, *supra* note 6, at 18-19, 34.

⁴⁹ Price, *supra* note 8, at 52.

⁵⁰ Araral, 'Ostrom, Hardin and the Commons: A critical appreciation and a revisionist view', 36 *Environmental Science and Policy* (2014) 11, at 21.

seabed by technologically advanced states. His intervention was motivated by a different politics, but was also problematic in some respects.

3. Arvid Pardo and the Common Heritage of Mankind

A. *The Text*

Pardo's address to the First Committee of the UN General Assembly is often (if wrongly) recalled as the first to introduce the world to the concept, and phrase, the 'common heritage of mankind', entailing international administration of the deep seabed.⁵¹ The address followed a late request by Malta to add a new item on the General Assembly's agenda for its 1967 session,⁵² to discuss rapid developments in seabed mining technology and threats of national appropriation and militarization of the seabed.

The General Assembly scheduled a plenary discussion, amidst debates on the Vietnam and Arab-Israeli conflicts, communist China, apartheid South Africa, and Portuguese colonialism. The Maltese Prime Minister outlined the need for international regulation of the seabed, and suggested its resources could furnish development capital replacing transfers of foreign aid to developing states.⁵³ Peru alone replied, recognising the possible benefits of Malta's suggestion, but also asserting Peru's expansive jurisdiction over the seabed and waters adjacent to its territory.⁵⁴ The Assembly allocated the item to the First Committee for further discussion.

Three weeks later, Pardo delivered a momentous speech – in part panegyric to the oceans (the 'womb of life'), in part tantalizing description of seabed riches and exploitation techniques, and in part warning against the seabed's imminent enclosure.⁵⁵ Pardo spoke of the romance of sunken treasure, and quantities of oil and gas awaiting exploitation, which only constituted the

⁵¹ S. Buck, *The Global Commons* (1998), at 28; K. Baslar, *The Concept of the Common Heritage of Mankind in International Law* (1998), at 29, 81 (observing that earlier mentions did not elaborate its legal components); J. Vogler, *The Global Commons: Environmental and Technological Governance* (2nd ed., 2000), at 6; Joyner and Martell, 'Looking Back to See Ahead: UNCLOS III and Lessons for Global Commons Law', 27 *Ocean Development and International Law* (1996) 73, at 75; Heidbrink, 'The Oceans as the Common Property of Mankind from Early Modern Period to Today', 6 *History Compass* (2008) 659, at 666.

⁵² Malta, Request for the inclusion of a supplementary item, UN Doc. A/6695, 18 August 1967.

⁵³ General Assembly, First Committee Debate, UN Doc. A/PV.1582, 6 October 1967, §104 et seq.

⁵⁴ General Assembly, First Committee Debate, UN Doc. A/PV.1583, 6 October 1967, §34-35.

⁵⁵ A/C.1/PV.1515-1516, *supra* note 2.

known resources of the continental shelf. The ‘vast, mysterious, submerged areas plunged in perpetual darkness’ promised infinitely more: an ‘incredible concentration’ of polymetallic nodules with an ‘astounding’ array of minerals – 43,000,000,000 tonnes of aluminium, enough for 20,000 years of human consumption, as compared to 100 years’ worth available on land; 358,000,000,000 tonnes of manganese, enough for 400,000 years, as compared to 100 years’ worth from land, and so on⁵⁶ – and forming faster than they could be consumed. He also described technologies by which these minerals could be cheaply extracted.

There was more: Pardo outlined a techno-utopian fantasy in which the oceans would gradually become the main sphere of human life. All food, apart from luxuries like fruit, would grow in the oceans; dolphins acting as sheepdogs and air bubble curtains would protect fish ranges; and colonies of aquanauts would live at depths of 500 meters. Fish protein concentrate would ‘meet daily requirements of one child at less than 1 cent of US money’. He went on, listing known possibilities and those ‘we know little about ... yet must in all likelihood exist.’

He next cautioned that this noble dream of seabed riches might be preempted by the nightmare of national appropriation by technologically-advanced states, who were spending generously on oceanographic research. Both the prospect of minerals and military considerations – opportunity to place missile systems on the seabed – would motivate them to proclaim jurisdiction over large areas.

Moreover, he argued, the ‘current juridical framework ... clearly encouraged ... appropriation ... of the seabed’: The seabed was *land*, and could be acquired through effective occupation; in case of remote or inaccessible territory very little control would suffice. Pardo argued that in *Eastern Greenland* (1933), the Permanent Court of International Justice had applied the doctrine of continuity to hold that colonization of a part of Greenland was evidence of effective occupation of the whole (an incorrect reading of the judgment). The 1945 Truman Proclamation had cited ‘contiguity’ and ‘technological capability to exploit resources’ as grounds for asserting jurisdiction over the continental shelf; and the 1958 Continental Shelf Convention had formalized ‘adjacency’ and ‘exploitability’ as *alternative* bases for jurisdiction (article 1); and made formal occupation unnecessary (article 2(3)). Thus, Pardo cautioned, citing exploitability, technologically advanced states could claim jurisdiction even beyond the midpoint of the ocean.

⁵⁶ For a full description, see A/C.1/PV.1515, *ibid.*, at §26.

Pardo further asserted that from expansive claims to the seabed would follow claims to the high seas, for it was ‘a traditional principle of international law that a state exercising sovereignty over land also exercises jurisdiction over the superjacent atmosphere,’ and the seas were the atmosphere of the ocean floor. He did not think article 3 of the 1958 Convention, providing that ‘[t]he rights of the coastal State over the continental shelf do not affect the legal status of the superjacent waters as high seas’ would impede such claims. In short, he assumed that while technologically advanced states might rely upon the 1958 Convention to justify self-interested behaviour, they would not let it constrain their actions.

To avoid these outcomes, Pardo suggested the General Assembly should establish a treaty regime overseen by an administrative body. Such a regime could ensure peaceful and orderly exploitation of the seabed, on the principle that it was the common heritage of mankind, and thus to be used in the interests of all, especially developing states. The regime was urgently needed, because technologically advanced states had already begun a scramble for the seabed that recalled the 19th century race for colonies in Asia and Africa; ‘sharply increasing world tensions’ and ‘intolerable injustice’ could follow.

He dismissed the ongoing work of the UN Secretariat and special agencies, asserting ‘their activities have no prospect in any way of diminishing the pressures making for competitive appropriation ... nor ... coping effectively with problems ... such as pollution’. He also argued against vesting the General Assembly with oversight of the regime, because technologically advanced states would not agree to a framework that allowed small states the same voting power as themselves. Rather, a new special agency should assume jurisdiction as a ‘trustee’ for all states, and have the power to license seabed use. Pardo estimated that the agency would receive rich revenues from its licenses, enabling it to spend US\$5000 million annually on development aid; but offered no precise basis for this calculation.

Such a treaty was the long-term goal. In terms of immediate action, he advised the General Assembly to declare that the seabed *was* the common heritage of mankind, freeze claims to it beyond the areas already within national jurisdiction, and appoint a working group to begin consultations on the treaty.

B. Pardo's Speech in Context

Pardo's speech created a stir. It was evident that, whether or not his specific proposals were adopted, his speech had sparked a debate that would culminate in some distinctive outcome (and not die at the inception as policy initiatives at the UN usually do). In the event, the initial debate led to the establishment of a UN Seabed Committee, which gave on to the Third UN Conference on the Law of the Sea (UNCLOS III) to draft the 1982 UN Convention on Law of the Sea. Pardo's influence may be seen in the fact that despite his absence from UNCLOS III,⁵⁷ he is recalled as the 'Father of the Law of the Sea Conference'⁵⁸ and even more expansively as the 'Father of the new Law of the Sea'⁵⁹ (Hugo Grotius being father of the 'old').

And yet Pardo was not exceptional in raising the matter of the seabed, nor even in invoking the CHM concept. His was only one amongst a number of initiatives of the time, many connected to the UN in some way, and some with more comprehensive subject-matter, taking in the seabed *and* the high seas.

As early as 1963, a corporate executive suggested the UN assume title to the international seabed and allocate exploitation rights, generating revenue for itself.⁶⁰ In 1966, the United States, Ecuador and Pakistan,⁶¹ sponsored an Economic and Social Council (ECOSOC) resolution requesting the Secretary General to study presently available knowledge of and techniques for exploitation of seabed minerals, and report on whether they may be effectively harnessed 'to raise the economic level of people throughout the world, and especially in the developing countries'.⁶² A stirring speech by US President Lyndon Johnson followed:

[U]nder no circumstances... must we ever allow the prospects of rich harvests and mineral wealth to create a new form of colonial competition among the maritime nations. We must be careful to avoid a race to grab and to hold the lands under the high seas. We must ensure that the deep seas and the ocean bottoms are, and remain, the legacy of all human beings.⁶³

⁵⁷ Following a change of government, Pardo demitted office in June 1971.

⁵⁸ UN Press Release SEA/1619 (16 July 1999).

⁵⁹ Malta Department of Information, Press Release No. 202 (19 February 2002).

⁶⁰ T. Noon (Prudential Insurance), Letter to Secretary General, 8 May 1963, S-285-0002-31, UN Archives (hereafter UNA), New York. The Secretariat told Noon that seabed mining remained a remote prospect, but an internal memorandum, dated 17 May 1963, noted that Noon's suggestion touched upon a current interest of the Secretariat, S-285-0002-31, UNA, New York.

⁶¹ S. Nandan et al., *The Development of the Regime for Deep Seabed Mining* (2002), available online at <http://www.isa.org.jm/files/documents/EN/Pubs/Regime-ae.pdf>, at §8.

⁶² ECOSOC Res. 1112 (XL), 7 March 1966.

⁶³ 'Remarks at the Commissioning of the Research Ship – Oceanographer', 13 July 1966, available online at <http://www.presidency.ucsb.edu/ws/?pid=27711>.

Thereafter, the United States led the adoption of a General Assembly resolution similar to the one passed by ECOSOC, but asking the Secretary General also to formulate proposals for a programme of international co-operation for exploitation of marine resources and better understanding of the marine environment.⁶⁴ The ECOSOC and General Assembly also noted the ongoing activities in this respect of special agencies such as UNESCO, the Food and Agricultural Organization, and the World Meteorological Organization.

Various international associations had also begun to take notice. The Dutch Committee of the International Law Association was examining the issue by 1966.⁶⁵ In July 1967, the World Peace Through Law Conference, attended by delegations from 122 states, adopted a resolution recommending that the UN proclaim jurisdiction and control over all non-fishery resources of the high seas and seabed.⁶⁶ The resolution and preparatory materials, thereafter transmitted to the UN Secretary General, highlighted similar themes as Pardo's speech.

In August 1967, the Commission to Study the Organization of Peace (CSOP), a think-tank, submitted a draft General Assembly resolution to the Secretary General, which declared both the high seas and the seabed beyond national jurisdiction the common heritage of mankind.⁶⁷ It called for the establishment of an international authority within the UN framework to regulate uses of these areas. Its themes and suggestions were similar to those made by Pardo, but encompassed both the seabed and high seas. Interestingly in light of Pardo's soon-to-be-expressed objection to General Assembly oversight, CSOP argued:

No one need fear that such an agency or authority would be dictated to by the parliamentary majority of the General Assembly.... [which] has demonstrated as in the case of the Atomic Energy Agency that it can create an agency and then leave it strictly alone as far as its operations are concerned.

CSOP also insisted on the need for urgent action, 'because of claims that will have already been made, and conflicts that might be underway'.

Pardo's proposals were thus characteristic of a widespread interest in oceanic resources and agreement that they should be exploited for the benefit of all, especially developing states.

⁶⁴ GA Res. 2172 (XXI), 6 December 1966.

⁶⁵ S. Oda, *The law of the sea in our time*, Vol 1 (1977), at 9-10.

⁶⁶ 'Resolution 15: Resources of the High Seas', Geneva, 13 July 1967, S-0442-0027-0003, UNA, New York.

⁶⁷ Draft Resolution and Working Paper, 21 August 1967, S-0858-0005-03, UNA, New York.

Nor was his concept of the CHM novel; rather, it abstracted from a more comprehensive understanding a view restricted to the seabed alone.

Pardo later recalled that his interest in oceanic resources had been triggered only months before his speech:

I learned of a United States proposal in ... the General Assembly requesting the Secretary General... to conduct a study of the mineral resources of the sea [culminating in GA Res 2172]. I had never heard that the sea contained significant mineral resources, apart from salt, so I thought that this was yet another of the many less useful projects then engaging the attention of the UN. I was highly sceptical and I prepared to criticize.... At a cocktail party that evening, however, a member of the US delegation hinted that I should be careful to criticize something I knew little about, so I held my peace in the debate, but I was definitely intrigued.⁶⁸

At the time, he was in search of a cause to advocate. Newly-independent Malta wished to establish a voice in international affairs, and Pardo, half-Swedish, educated in Italy and France, never resident in Malta, and a UN civil servant, was headhunted for the purpose.⁶⁹ With a staff of three to command, he had to find ways of projecting a distinctive Maltese presence at the UN, 'and an interest not only in our own concerns but also but also in those of the international community as a whole'.⁷⁰ He concluded that the best approach was to identify a topic of international interest to propagate as a Maltese initiative. Having unsuccessfully advocated UN reform and arms regulation, the cocktail conversation led him to alight on oceans regulation.

Pardo acknowledges that at the time he did not recognize 'the tremendous innovative potential of the common heritage concept'.⁷¹ He was concerned primarily with 'putting Malta on the map'. He hoped his initiative would enhance Malta's standing on Mediterranean disputes, and result in Malta becoming the headquarters of some international institution. More 'altruistic' objectives – an end to 'humiliating financial hand-outs' and access to technology for developing countries – were no doubt also sought-after goals, but ancillary.⁷² He excluded the high seas, already governed by the principle of freedom, from his proposal in order to pre-empt resistance from major powers; and presented the seabed as an entirely new subject.⁷³

⁶⁸ Pardo, 'The Origins of the 1967 Maltese Initiative' 9 *International Insights* (1993) 65, at 66.

⁶⁹ Correspondence between Maltese Prime Minister and UN Secretary General, October-November 1964, S-0844-0013-06, UNA, New York.

⁷⁰ Pardo, *Origins*, *supra* note 68, at 65.

⁷¹ *Ibid.*, 68-69.

⁷² *Ibid.*

⁷³ *Ibid.*, at 66-67.

Pardo's proposal is often assimilated to the developing states' movement for a New International Economic Order (NIEO). It is described either as *part* of this movement, or at least aligned with it in reflecting a 'Southern' position on the seabed that had begun to develop by the early 1960s.⁷⁴ But this is a misreading. Firstly, developing states came to address the issue later: seabed resources find no mention in the 1960s documents of principal Third World groupings – the Group of 77's 1964 Joint Declaration⁷⁵ and October 1967 Charter of Algiers;⁷⁶ UNCTAD's first and second sessions,⁷⁷ and the Non-Aligned Movement's first and second summits.⁷⁸ Secondly, Pardo's proposals were not entirely consistent with their interests: He favoured narrow continental shelves, so that a larger part of the seabed would fall within the common heritage zone. But many coastal developing states wanted extended continental shelves, preferring exclusive rights to their resources. They asserted as much in response to Pardo's speech, proclaiming national jurisdiction over 200 miles of seabed adjacent to their coasts.⁷⁹ This claim, part of developing states' assertion of the doctrine of 'permanent sovereignty over natural resources' (PSNR), became a common position. The UK Foreign Office noted that Tanzania and Ceylon (sic) changed their initial positions to embrace it, and India decided to act against its own interest, all for the sake of solidarity with other developing states.⁸⁰ Pardo was critical of these extended claims.⁸¹

Thirdly, Pardo's proposal included a rejection of General Assembly oversight, at a time when developing states were particularly seeking to leverage their numerical majority in the General Assembly for various economic ends. He may have intended only to forestall developed states' objections, but the implied acceptance of administrative non-parity ran contrary to a fundamental element of the NIEO.

⁷⁴ B. Buzan, *Seabed Politics* (1976), at 66-68; Vogler, *supra* note 51, at 46; N. Klein, *Dispute Settlement in the UN Convention on the Law of the Sea* (2005) 320; Friedham and Durch, 'The International Seabed Resources Agency Negotiations and the New International Economic Order', 31 *International Organization* (1977) 343, at 349-352.

⁷⁵ 'Joint Declaration', Geneva, 15 June 1964.

⁷⁶ 'Charter of Algiers', 10-25 October 1967.

⁷⁷ First Session, Final Act, Report and Policy Statements, E/CONF.46/141, 16 June 1964; Second Session, Report and Annexes, TD/97, 29 March 1968.

⁷⁸ First Summit, 'Declaration', Belgrade, 1-6 September 1961; Second Summit, 'Declaration', Cairo, 5-10 October 1964.

⁷⁹ General Assembly, First Committee Debate, UN Doc. A/C.1/PV.1527, 14 November 1967, §2-10 (Honduras); see generally UN Docs. A/C.1/PV.1524-1530 (8-16 November 1967).

⁸⁰ UK Foreign Office, Report on International Negotiations on the Seabed by D.A. Campbell, 13 November 1971, MRS 11/6, FCO 76/328, National Archives, Kew.

⁸¹ Pardo, 'A statement on the future law of the sea in light of current trends of negotiations', 1 *Ocean Development and International Law* (1974) 315, at 320.

Moreover, once developing states took up the issue of seabed resources, they found Malta often opposed to their stance. Malta voted against the 1969 ‘Moratorium Resolution’ sponsored by developing states and rejected by developed ones.⁸² The resolution provided for a freeze on claims and activities vis-à-vis the international seabed pending agreement on an international regime. One might have thought this proposal well-aligned with Pardo’s former recommendation that the General Assembly freeze claims to the seabed until continental shelf limits were clearly defined.⁸³ But he now argued that a moratorium would be ‘either meaningless or discriminatory’.⁸⁴

Pardo also spoke against a related resolution that called for comprehensive negotiations on a new law of the sea, encompassing the seabed, the high seas and territorial waters, and the continental shelf.⁸⁵ He criticized this resolution, supported by developing states and opposed by developed, as a political manoeuvre that comprehended issues beyond the competence of the Seabed Committee, and would impede establishment of a seabed regime.⁸⁶ Yet, by 1971, Pardo was calling for a comprehensive ‘ocean space’ regime, arguing that the seabed was only one aspect of the Seabed Committee’s jurisdiction.⁸⁷ This change of heart was no doubt prompted by growing support of such negotiations amongst developed states.⁸⁸ While not imputing motives to these alignments between Malta and developed states’ positions, it is evident that Pardo, at least in his representative capacity, was not a supporter of NIEO politics as such.

The seabed did become an important issue in developed/developing State relations—it began to appear in the documents of Third World forums from the 1970s,⁸⁹ and was included in one of the principal General Assembly resolutions on the NIEO in 1974.⁹⁰ And Pardo’s rich description of seabed resources was indeed the catalyst for this. But it is not the case that the seabed was always central in developing states’ quest for an equitable international order, nor

⁸² GA Res. 2574 (XXIV) D, 15 December 1969.

⁸³ A/C.1/PV.1516, *supra* note 2, at §14.

⁸⁴ General Assembly, Plenary Meeting, UN Doc. A/PV.1833, 15 December 1969, at §35.

⁸⁵ GA Res. 2574 (XXIV) A, 15 December 1969.

⁸⁶ A/PV.1833, *supra* note 84, at §30-31.

⁸⁷ UN Seabed Committee, Statement of Arvid Pardo, UN Doc. A/AC.138/SR.56, 23 March 1971, at 156ff.

⁸⁸ General Assembly, Plenary Meeting, UN Doc. A/PV.1970, 17 December 1970, at §177ff.

⁸⁹ NAM, Third Conference, ‘Statement on the Seabed’, Lusaka, 8-10 September 1970; UNCTAD, Third Session, Resolutions 51 and 52 (III), Report and Annexes, TD/180, Vol. I, 21 May 1972, at 79.

⁹⁰ GA Res. 3281 (XXIX), 12 December 1974 (Art. 29).

did they wholeheartedly embrace the CHM concept (unlike first world civil society which determinedly advocated it).⁹¹

Mohammed Bedjaoui gives voice to developing states' ambivalent view of CHM and its deployment in seabed negotiations.⁹² He notes that although the concept betokened the idea of collective economic security and could generate an international law focused on collective well-being, it had also been used to justify colonialism and could propagate new forms of domination. The timing of its present invocation was suspect – for it seemed a move to counter claims of PSNR – and its application political: the seabed, equatorial basins and other natural resources were described as the common heritage, but technology was not; access to it remained crushingly expensive for developing states. Bedjaoui was particularly pessimistic about the use of CHM at UNCLOS III, where, with 'ill-controlled appetites', developed states were using all manner of strategy and tactics to co-opt the seabed to their uses.

C. Pardo's Perceptions

The heft of Pardo's speech lay in its captivating account of seabed riches. He drew upon findings reported by John Mero, an engineer whose research had received coverage in *Popular Science*⁹³ and *Scientific American*,⁹⁴ and was published as a book.⁹⁵ Mero claimed that seabed minerals could be recovered efficiently: a mining operation costing only \$10 million would recover 500 tonnes of nodules per day;⁹⁶ a \$100 million operation would allow recovery of 5000 tonnes per day and support an annual return on investment of 30 percent.⁹⁷ In 1965, Mero founded his own mining venture, Ocean Resources Inc.

Mero's predictions proved unfounded. Early warnings came from the Secretary General and the Seabed Committee's Economic and Technical Subcommittee that seabed mining remained technologically and economically uncertain.⁹⁸ Mero's estimates as to the abundance of seabed minerals and cost-effectiveness of mining were thereafter challenged by multiple

⁹¹ M. Allen, 'An Intellectual History of the Common Heritage of Mankind as Applied to the Oceans' (1992) (MA Thesis available online at http://digitalcommons.uri.edu/ma_etds/283).

⁹² M. Bedjaoui, *Towards a New International Economic Order* (1979), at 221-239.

⁹³ Roscoe and Fleming, 'Can we vacuum-clean the sea floor for valuable ore?', *Popular Science* (1959) 102.

⁹⁴ J.L. Mero, 'Minerals on the Ocean Floor', 203 *Scientific American* (1960) 64.

⁹⁵ *Mineral Resources of the Sea* (1965).

⁹⁶ Roscoe and Fleming, *supra* note 93, at 104.

⁹⁷ Mero, *Minerals on the Ocean Floor*, *supra* note 94, 71.

⁹⁸ ECOSOC, 'Mineral Resources of the Sea beyond the Continental Shelf', Report of the Secretary General, UN Doc. E/4449/Add.1, 19 February 1968, at 36; UN Seabed Committee, Interim Report of the Economic and Technical Subcommittee, UN Doc. A/AC.138/SC.2/6, 1 April 1969.

experts.⁹⁹ His own company seems not to have flourished, disappearing from UN lists of mining ventures by 1980.¹⁰⁰ Yet these facts found little acknowledgement during UNCLOS III, as developing states particularly remained persuaded by the ‘pervasive myth of a sea-bed bonanza’.¹⁰¹ Marcus Schmidt reports ‘[d]elegates who tried to inject a note of caution ... were told by others that all the optimistic figures were in print, which seemed to imply that they *had* to be correct.’¹⁰²

Summing up the negotiations, a UN report noted that the participants had been ‘beset with a range of “facts” which are often contradictory, elusive and difficult to substantiate’. It endorsed the view that ‘an unfortunate coincidence of exaggerated resource estimates and misinterpretation of those estimates has resulted in ... national and international decisions [being] made on the basis of completely erroneous information’.¹⁰³

The persistence of belief in a seabed bonanza contributed to hard bargaining between developed and developing states. It also explains why seabed mining received far more attention than it deserved during UNCLOS III negotiations, diverting the attention of developing states from other more relevant issues. It led to their insisting upon a highly bureaucratic regime, that became Part XI of the 1982 Convention, was strongly protested by developed states, and subsequently ‘mutilated’ by a follow-up agreement concluded in 1994.¹⁰⁴

Of course, Pardo alone was not responsible for these outcomes; he became a fierce critic of UNCLOS III, ruing the ‘almost theological debate’ in which ‘the viability of the future international regime for the seabed ... and economic realities were largely forgotten by the contending parties.’¹⁰⁵ Nor was he the only person deluded by the belief that seabed minerals were more abundant and easily recoverable than proved to be the case.¹⁰⁶

It was Pardo, however, who raised the game beyond UN internal memoranda and think-tank papers, by persuading the General Assembly of the urgent need for political action. He

⁹⁹ R. Ogley, *Internationalizing the Seabed* (1984), at 10-18; C. Sanger, *Ordering the Oceans* (1987), at 159ff; M. Schmidt, *Common Heritage or Common Burden?* (1989), at 13-14.

¹⁰⁰ Ogley, *ibid.*, 45.

¹⁰¹ Schmidt, *supra* note 99, at 16.

¹⁰² *Ibid.*

¹⁰³ UN Oceans Economics and Technology Branch, ‘Assessment of Manganese Nodule Resources: The Data and the Methodologies’, *Seabed Minerals Series* Vol. 1 (1982), at 1

¹⁰⁴ A word used by the late RP Anand to describe the 1994 agreement: see R.P. Anand, *Studies in International Law and History: An Asian Perspective* (2004), at 188.

¹⁰⁵ A. Pardo, ‘Before and After’, 46 *Law and Contemporary Problems* (1983) 95, at 102.

¹⁰⁶ Secretariat, ‘The United Nations and the Mineral Resources of the Deep Sea’, Memo, S-0286-0010-09, August 1967, UNA, New York.

translated a technical study into the promise of international equity and development, effectively by omitting the qualifications that had accompanied that study. Mero had cautioned that only a fraction of his estimated 1.66 trillion metric tons of nodules might prove economic to mine; Pardo presented the figure of ‘1.5 trillion tons’ as a ‘conservative’ calculation.¹⁰⁷ Extrapolating from scattered studies, he represented seabed mining as an industry of the greatest contemporary importance. Pardo here was guilty of hypostasizing facts (in Price’s terms), presenting an account of ‘reality’ that was selective and optimistic at best, wildly speculative at worst, and irresponsible in exacerbating existing developed/developing tensions. His proposal, pressing for a regime independent from the UN, conjured up the nightmare of a new colonial scramble, isolated seabed mining from other oceans issues, and may have derailed a more reasonable progression towards a seabed regime:

UN agencies and Secretariat had been exploring seabed regulation before Pardo’s intervention. The Secretariat’s preferred approach was to comprehensively study various issues, including the economic and technological challenges to mining.¹⁰⁸ Without Pardo’s intervention, this study probably would have proceeded slowly and at a technical level. Pardo’s demand for immediate political commitment in the form of a resolution and a treaty-drafting committee upped the *ante*: there was now no going back to a technical study. While the Secretariat sought time to complete its report,¹⁰⁹ the General Assembly decided to establish political oversight in the form of a committee oriented towards the early adoption of governing principles for use of the seabed. We cannot be certain that the Secretariat, had it been able to complete its work before the issue became prominent, would have arrived at a better regime, but we can surmise that it would have avoided decision-making on the basis of delusive ‘facts’. Pardo’s intervention was a critical event that changed the course of law-making on the seabed.

Part of the influence of Pardo’s intervention must be attributed to its leveraging of developed/developing state tensions.¹¹⁰ He predicted a repeat of their 19th century colonial land grab by developed states, reducing the world’s oceans to vast ‘national lakes’ (it may be recalled that he represented the 1958 Convention as facilitating this outcome). For newly independent Asian and African states, his insistence that both military and economic logic supported a scramble, played upon familiar fears.

¹⁰⁷ See also Schmidt, *supra* note 99, at 16; Sanger, *ibid.*, at 159.

¹⁰⁸ Secretariat, *supra* note 106.

¹⁰⁹ Secretary General, Note, UN Doc. A/C.1/952, 31 October 1967.

¹¹⁰ Buzan, *supra* note 74, at 69.

Yet, archival records indicate otherwise. Developed states did not favour appropriating large tracts of the seabed. Military and navigational interests made them seek narrow limits to coastal jurisdiction, which would allow them to operate in proximity to other states. In 1970, the United States even proposed a scheme dividing the sea into a narrow zone of national jurisdiction, an intermediate ‘International Trusteeship Area’, and the international seabed. The coastal state could recover the resources of the Trusteeship Area, but would have to surrender part of the profits from them to an international authority, which would administer both this Area and the international seabed.¹¹¹ This US proposal only found support from some land- and shelf-locked states: Afghanistan, Austria, Belgium, Hungary, Iraq, Nepal, Netherlands and Singapore; for developing states, ‘trusteeship’ carried a negative connotation.¹¹² Nevertheless, it was a far cry from claiming national lakes.

Pardo missed the point that, at the time, the seabed beyond 200 miles was not of interest to developed states, for it did not contain exploitable oil and gas, and prospects for mining seabed minerals seemed dubious.¹¹³ He also failed to acknowledge a shift in the pattern of imperialism. Territorial grab had lost importance; colonial powers were withdrawing from their colonies, instead using trade, aid and monetary regimes to maintain imperial advantage.¹¹⁴ Missing an opportunity for early critique of neo-imperialist practices, Pardo chose to fetishize (another of Price’s terms) a constant conjunction of events: assuming that the mode for obtaining seabed resources must replicate the mode by which other natural resources were obtained in the past.

Pardo also committed the third fallacy described by Price, of treating an open system as a closed one. He isolated the seabed from other oceans issues in order to project it as a new subject for law-making, ignoring the rules already in place. He offered an odd analysis of the 1958 Conventions, citing the Continental Shelf Convention as proof that the law favoured a limitless continental shelf, but neglecting the texts that delimited the territorial sea and set out states’ rights and obligations vis-à-vis the high seas in arguing that as the ‘atmosphere of the ocean floor’ those seas would also be apportioned between states. The treatment of seabed mining as somehow distinct from – and eventually controlling – other oceans issues persisted through UNCLOS III, and lent to seabed negotiations an over-particular, self-contained

¹¹¹ Ogle, *supra* note 99, at 108.

¹¹² UK Department of Trade and Industry, “‘Seabed Limits’: A Study on the US Proposal”, MRS 11/9, 1 November 1971, FCO 76/328, National Archives, Kew.

¹¹³ Campbell, *supra* note 80, at 3.

¹¹⁴ See K. Nkrumah, *Neo-colonialism, the Last Stage of Imperialism* (1965).

character that ignored such matters as the environment and all resources other than manganese nodules. Although a critic of these developments, Pardo prompted them in the quest for a new kind of legal authority for seabed mining.

4. Juxtaposing Hardin and Pardo: Politics and Epistemologies

At the outset, the concepts of TOC and CHM seem to emerge from different worldviews, for all that they address the same subject, commons. TOC outlines the threat of a dystopian future, overrun with people and under-nourished with resources; CHM grounds itself in a technoutopian vision in which the oceans will supply fresh resources for continued human flourishing. TOC, evidenced in the politics of its author, is a parochial vision of the world, as split into so many inward-looking ‘lifeboats’; CHM is a cosmopolitan vision of spaceship Earth, in which ‘mankind’ is the ultimate subject of law-making. Decolonization, for Hardin, was the context in which the TOC would come to bite, and he was supportive of coercive international relations between developed and developing states; decolonization for Pardo presented the need to think about the needs of developing states, and enable their access to global resources – CHM was the encapsulation of those hopes. I hope, however, that the analysis in the foregoing sections has given cause to complicate, rather than perpetuate this summary of differences.

Both interventions reveal parochial and cosmopolitan tendencies, if we consider where, between home and world, their focus lay. Hardin’s parochialism needs no further elaboration, but it is well to keep in mind that, like other practitioners of the dynamic of difference, his imaginary was a global one – his fear was that a failure to adopt a lifeboat ethics would lead to the *Earth’s* carrying capacity being exceeded by its population. Pardo’s cosmopolitan proposal, on the other hand, emerged from a parochial ambition: to establish Malta’s presence in international affairs and obtain for it the benefits that flow from hosting the headquarters of some international organization on its territory.

Moreover, Pardo’s intervention, like Hardin’s, had both illiberal and imperial dimensions. Pardo sought to bring the largest possible area of the seabed within a centralized licensing regime, asking states to forsake national claims to extended continental shelves. Moreover, although he dwelled on the possible appropriation and militarization of the seabed by technologically advanced states, and urged that benefits from exploitation should flow to developing states, his envisaged administrative authority vested the right of rule in the hands

of the former. He argued for a special agency led by technologically advanced states, rather than General Assembly oversight in which all states would have an equal vote. His plea, thus, was for a few – advanced – states to govern access to and use of a global resource in the name of all. Although this article does not examine later deployments of CHM and TOC, it is worth mentioning that such assertions have also sought to reframe resources lying within national jurisdictions as objects of global governance.¹¹⁵ However, the illiberal and imperial dimensions of Hardin's intervention were of a different order; he advocated not simply constraints on economic activity in an international area, but an interventionist American (more generally, western) foreign policy that would effectively determine the reproductive choices of Third World people – and rejected educative 'family planning' approaches embraced by UN agencies and organizations like Planned Parenthood.¹¹⁶ His eugenicist assumptions, clothed in assertions of ecological concern, allowed him to simultaneously defend enclosures and heavy consumption by rich western people, and withhold resources from poor and Third World people.

A third theme is the role that an integrative approach played in the production, and impact of both TOC and CHM. As discussed above, it is by combination of facts and theories culled from various disciplines that both Pardo and Hardin developed their imaginaries of the commons. Both emphasized technology and rationality-based theories as the framework within which to understand social and economic issues. Hardin, building on a biological account of individual selfishness and brute rationality (except where tempered by civilizational influences, as amongst rich western people) joined to assertions about the deleterious impact of technological advances that lowered mortality rates of poor and Third World peoples and improved access to food and other resources, argued against both laissez faire and welfare economics, advocating far-reaching enclosure of resources and coercive taxes on the use of public goods. Pardo, seduced by representations of immediately available mining technology and techno-utopian future possibilities, and espousing a realist view of state behaviour to predict that technologically advanced states would appropriate the seabed, argued for a new international legal regime in terms that not only appealed to the self-interests of developing states, but also – in offering the compromise of an institution that they could control – to those of developed states. Although Hardin and Pardo were not the only ones thinking about such issues, their accounts of TOC and CHM seemed particularly potent not least because they

¹¹⁵ See M. Goldman (ed.), *Privatizing Nature: Political Struggles for the Global Commons* (1997).

¹¹⁶ Hardin, Tragedy, *supra* note 1, at 1246.

seemed to canvass so many different types of knowledge: technological, behavioural, economic and legal. Above, I have examined how their interdisciplinary achievement may have fallen rather short of their integrative ambition, and will not revisit those arguments here. Rather, I want to focus on the integrative thrust of their interventions, and briefly locate both attempt and impact within the knowledge politics of the time.

The 1960s were a decade in which integrative work was heavily prized. Scholars recall the period both as a *watershed*, in which there was a heavy flow of funding towards interdisciplinary research, from organizations like UNESCO, Organization for Economic Cooperation and Development, National Science Foundation, Carnegie Foundation, and others;¹¹⁷ and as a *continuation* of a previous trend, as synthetic theories (such as cybernetics and game theory, emphasizing techno-scientific knowledge and rationality-based analyses) that had emerged as important during the Second world War, remained dominant.¹¹⁸ Their influence is seen in the concepts formulated by Hardin and Pardo; both, moreover, attested to the epistemological attraction of interdisciplinarity – Hardin explicitly describing Tragedy of the Commons as an attempt in that direction; Pardo revealing it *inter alia* in his choice of journal subscriptions. TOC and CHM reflect the spirit of the time, expressed in the much-quoted observation that ‘the real problems of society do not come in discipline-shaped blocks’.¹¹⁹

Strathern cautions however, that the presentation of interdisciplinarity as an epistemological advance over disciplinarity carried its own problems, particularly as it was transformed into a measure of audit.¹²⁰ Her argument is made in three steps: Firstly, interdisciplinary integrations may selectively use and reify knowledge that is context-specific and deeply contested within a discipline (a well-understood assertion). Secondly, the claim to interdisciplinarity impedes the recognition of this critique – while laypersons are persuaded by assertions that the knowledge reflects a given disciplinary expertise, disciplinary critics are silenced on the basis that meeting individual disciplinary standards is not the point: it is the integration that matters; ‘existing disciplines *get in the way*’.¹²¹ And thirdly, this silencing is forgotten, as the performance of interdisciplinarity itself becomes the metric of evaluation of a

¹¹⁷ Klein, *supra* note 6, at 35-37.

¹¹⁸ *Ibid.* at 28-35; Locher, *supra* note 6, at 19-20.

¹¹⁹ Klein, *ibid.*, at 35.

¹²⁰ Strathern, *supra* note 9, at 197.

¹²¹ *Ibid.*, at 196. Emphasis added.

thesis. ‘We have been here before’,¹²² observes Strathern, speaking of the earlier period as a warning to current emphases on interdisciplinarity.

We may dispute the generalizability of Strathern’s reading of interdisciplinarity’s perils to all integrative attempts, present and past. Regardless, her account of the 1960s’ knowledge politics, in which integrative work enjoyed a presumptive legitimacy, is worth mulling. For, here perhaps is the clue to why, for all the errors made by Hardin and Pardo, their imaginaries enjoyed such enduring influence.

5. Conclusion

Two questions emerge from the foregoing analysis of TOC and CHM, and the context in which they emerged: *how* have they been deployed since; and *can* they be disentangled from the politics that informed their origins? These questions are important particularly as the imaginaries underlying both concepts have remained with us: as international summits repeatedly remind us, population and resource distribution remain prominent concerns, and our predictions of the future oscillate between tragic and techno-utopian visions. Global commons, both recognized (like the climate, oceans, and biodiversity), and asserted, are subjects of intense international negotiations, in which developed/developing and western/other identities continue to be central tropes. And, needless to say, the 1960s knowledge politics find contemporary resonance. Given these parallels, I hope the critical history that is offered in this article will not only recall the tensions between parochial and cosmopolitan, liberal and illiberal, imperial and anti-imperial, and knowledge-integrative and managerial dimensions of Hardin and Pardo’s interventions, but also encourage reflection on the ways in which these tensions continue to shape our current legal engagements with global commons.

¹²² *Ibid.*, at 197.